

Triennial Capacity Development Report



**Report Submitted to
Governor Bill Haslam
Prepared by the
Tennessee Department of Environment and Conservation
Division of Water Resources
Requirement of Section 1420, Federal Safe Drinking Water Act**

September 2014

Executive Summary

In accordance with the Federal Safe Drinking Water Act (SDWA), Section 1420, Tennessee is required to submit a Triennial State Capacity Development Program Implementation Report to the Governor. This report provides an assessment of Tennessee's strategy and efforts toward assessing and improving the technical, managerial, and financial capacity of public water systems within the state. This report is intended to fulfill the requirement of Section 1420(c)(3) of the SDWA.

In response to federal requirements, Tennessee's Drinking Water Rules require all new public water systems to demonstrate technical, managerial and financial capacity (establishing the system as "viable") before serving water to the public. All new water systems are required to develop a Capacity Development Plan including a business plan that demonstrates the system can achieve and maintain compliance with the Safe Drinking Water Act on the day they begin serving drinking water to the public. Water system capacity is the ability to achieve and maintain compliance with all applicable drinking water standards.

In addition to assessing newly constructed water systems, Tennessee has adopted a Capacity Development Strategy to address the viability of all existing public water systems. This strategy focuses on issues of viability for all existing water systems and closely examines each system's record of regulatory compliance. Tennessee's Capacity Development Strategy requires all existing public water systems in "significant non-compliance" (SNC) to develop plans showing that sufficient revenue is available and that the water system has adequate management and technical resources to operate in full compliance with the SDWA. Such requirements accelerate the compliance of existing systems that have incurred violations and encourage potentially significant non-compliers to take prompt necessary efforts to achieve a satisfactory compliance status.

The Environmental Protection Agency's enforcement targeting tool (ETT) is used to determine the level of non-compliance for all public drinking water systems. Appendix 1 includes the most recent list of water systems that have incurred violations scoring a non-compliance value of 11 or above on the ETT list. Those systems scoring 11 or higher on the ETT list are addressed with formal enforcement action along with technical assistance provided by the Division of Water Resources.

This document provides an evaluative assessment of the ongoing success and effectiveness of the state's regulatory efforts, which ultimately ensure capacity development of public water systems and Safe Drinking Water Regulations in Tennessee.

The Need for a Capacity Development Strategy

In accordance with the 1974 Federal Safe Drinking Water Act, states are required to ensure that public drinking water systems meet all minimum national drinking water standards.

EPA and the state delegated programs have come to realize that full compliance can only be achieved through capacity development assessments that examine the financial, technical and managerial status of a water system.

The Federal Safe Drinking Water Act Amendments of 1996 mandate that states ensure that all new community water systems (CWS) and all new non-transient, non-community water systems (NTNCWS) demonstrate capacity to implement each drinking water regulation in effect. Section 1420(a) of the Federal Safe Drinking Water Act requires that a state obtain the legal authority or other means to ensure that all new CWS and new NTNCWS commencing operation after October 1, 1999 demonstrate technical, managerial and financial capacity, or lose a portion (20%) of the monies allotted for the state's drinking water revolving loan fund (DWRRF). In addition, the 1996 amendments require states to prepare a Capacity Development Strategy to identify and prioritize water systems lacking consistent compliance with drinking water regulations.

As a brief summary of compliance in Tennessee during this triennial review, for the period ending July 31, 2014, there were fourteen water systems with an ETT score of 11 or higher (See Appendix 1). The violations for the fourteen systems fall within the following rules:

Violation	Number of Systems
Total Coliform Rule Monitoring Violations	11
Long Term 1 Enhanced Surface Water Treatment Rule Treatment Technique Violations	7
Long Term 1 Enhanced Surface Water Treatment Rule Monitoring Violations	5
Total Coliform Rule MCL Violations	5
Consumer Confidence Report Submittal Violations	4
Surface Water Treatment Rule Monitoring Violations	3
Long Term 2 Enhanced Surface Water Treatment Rule Monitoring Violations	3
Ground Water Rule Monitoring Violations	2
Surface Water Treatment Rule Treatment Technique Violations	2
Long Term 2 Enhanced Surface Water Treatment Rule Treatment Technique Violations	1
Public Notice Violation	1

For the period ending April 30, 2013, there were six water systems that had a score of 11 or higher on the Enforcement Targeting Tool (ETT list). Of these six systems, three community systems incurred violations for disinfection byproduct maximum contaminant level MCL exceedances. Two transient non-community systems had violations for either Total Coliform Rule, Ground Water Rule or Surface Water Treatment Rule.

In 2012, there were six water systems scoring 11 or above on the ETT list and in 2011, there were 13 systems scoring 11 or above. The results from the prior year's reflect an improved capacity on many water systems to comply with the established SDWA requirements. The Division's 2013 Annual Compliance Report for the Safe Drinking Water Act is attached as Appendix 1A.

Systems scoring 11 or above:	
2014	14
2013	6
2012	6
2011	13

The majority of the violations listed for the April 2013 ETT list are for monitoring/reporting violations of the Total Coliform Rule (TCR), Disinfection Byproducts, the Long Term 1 Enhanced Surface Water Treatment Rule and the Long Term 2 Surface Water Treatment Rule.

State Objectives and Strategy

Tennessee's Capacity Development Strategy process provides a comprehensive assessment of available capacity development resources and demonstrates areas of focus to improve each program's effectiveness. The benefit of the Capacity Development Strategy is that the state is able to review the broad range of efforts (programs and activities) currently offered and undertaken by both the regulatory program and the drinking water system to maintain, develop, or improve overall compliance and protection of public health.

Tennessee offers a range of outreach, training and compliance assistance efforts. For example, water system operator training is provided at TDEC's Fleming Training Center as well as through third party operator training programs offered by the Tennessee Association of Utility Districts (TAUD), the University of Tennessee Municipal Technical Advisory Service, and others. In addition, technical and financial controls have been developed to ensure regulatory compliance, including drinking water system design standards, thorough on-site inspections and frequent on-site technical assistance.

Within the State Comptroller of the Treasury's Department, the Utility Management Review Board (UMRB), the Water and Wastewater Financing Board (WWFB) and the Division of Municipal Audit, all conduct financial reviews of water systems. Water systems with a negative change in net assets after two years are considered by law to be under "financial distress" and subject to board action. Water systems are also subject to board action for excessive water loss, which is prompting meaningful infrastructure improvements and heightened focus on a water system's financial viability.

To facilitate good communication and coordination of efforts between TDEC and the State Comptroller's Office regarding public water system compliance, the Division of Water

Resources supplies the Commissioner's designee for the two boards (WWFB and UMRB). Additionally, the Division holds a position on the Water and Wastewater Operator Certification Board. The Operatory Certification Board is conducted in association with the Fleming Training Center which manages the certification of water and wastewater operators statewide; this board has the authority to revoke operator certification for just cause.

The oversight of these boards, as well as numerous other meaningful regulatory efforts are applied to improve or develop water system capacity in Tennessee. Most recently, financial and managerial resources have been heightened in order to improve capacity. For example, management training for commissioners and/or system managers lacking operational water system management knowledge and/or experience is now provided.

Further, examination of a system's water loss and its financial viability has become more of a point of focus. In 2009, the state legislature added the requirement that the UMRB must approve any new utility district being formed (T.C.A. 7-82-202(a)). In the 2009 legislative session, the WWFB and the UMRB were given the responsibility of setting acceptable water loss rates and addressing those systems with exorbitantly high losses (T.C.A. 68-221-1009(a)(8) and T.C.A. 7-82-401(h), respectively). In 2010, the legislature again modified the law to give the UMRB the authority to remove commissioners of utility districts for just cause (T.C.A. 7-82-307(b)(3)) and added a requirement for continuing education for utility commissioners (T.C.A. 7-82-308(h)). In 2011 the legislature modified the way in which utility commissioners are appointed, removing the option of a self-appointing board of commissioners and placing the authority to appoint commissioners with the county mayor (county executive) or by plurality of vote of the customers (T.C.A. 7-82-307(a)). For those utilities that serve multiple counties, all the county mayors in the service area must be involved in the utility commissioner selection process. The change to the law for utilities covering multiple counties was not in effect until 2012. Most recently, Public Chapter 628 was passed during the 2014 legislative session, amending T.C.A. 7-34-115(a). This amendment mandates that general funds from a municipality can no longer subsidize the water or wastewater system funds with taxpayer dollars and the water/wastewater funds will be required to operate as separate enterprise funds – not a division of the general fund.

State's Regulatory Foundation

Underlying the approaches mentioned above is the State's regulatory foundation. Regulatory enforcement is utilized as a tool in helping public water systems acquire, maintain, or improve their capacity and become viable water systems. Compliance reports are the indicator and guiding mechanism to Tennessee's state capacity development strategy. Compliance reports provide a continuous means by which capacity development issues are identified and addressed. As water systems incur violations, Tennessee is able to focus on the specific issues of the system and aid in determining corrective actions. The 2013 Annual Compliance Report is provided as Appendix 1A.

Existing water systems are identified as priority enforcement candidates based on the Enforcement Targeting Tool. Systems with scores above 11 are mandated for formal enforcement action. The enforcement process compels noncompliant systems to address capacity issues or face continuing and escalating enforcement action and financial disincentives in the form of fines.

Tennessee's regulatory program is able to issue Notices of Violations (NOVs), schedule Compliance Review Meetings, issue Commissioner's Orders and Director's Orders, and engage in court actions to target systems needing technical, managerial, and/or financial capacity. If compliance is not obtained and a system fails to acquire technical, managerial and/or financial capacity, it faces penalties and possibly additional enforcement action..

As part of capacity development, the Division of Water Resources can require existing water systems that have an ETT score of 11 or above and those with high potential for scoring above 11 to submit a capacity development plan identifying specific actions leading to the development of capacity. The plan must document and/or address all compliance issues faced by the system. The Division uses the Capacity Development Plan Guidance Document (Appendix 3) and the Capacity Development - Business Plan, Financial Self-Assessment Manual (Appendix 4) to ensure that public water systems develop a sufficient overall capacity development plan.

,Through the use of EPA small water system assistance funding beginning in 2012 the Division of Water Resources has been coordinating efforts with TAUD, the University of North Carolina Financial Environmental Center (UNCFEC) and the Texas A&M Engineering Extension Service (TEEX) to provide additional training for small community water systems serving less than 10,000 in population and non-transient non-community systems.

In summary, Tennessee's capacity development strategy identifies community and non-community systems in non-compliance with the SDWA, and strives to provide such public water systems with technical, financial and managerial assistance and training where appropriate; further, this regulatory strategy sets the stage for whatever level of enforcement is deemed necessary to ultimately achieve compliance and ensure safe drinking water.

Implementation of the Strategy – New Systems

The Tennessee Division of Water Resources' legal authority was certified by the Attorney General and Reporter for the State on July 15, 1999. It certifies that the laws of Tennessee provide adequate authority to carry out the capacity development requirements of the Federal Safe Drinking Water Act Section 1420(a), 42 U.S.C. § 300g-9(a).

The Tennessee Department of Environment and Conservation (TDEC) reviews construction projects to ensure that new water systems have the technical capacity to comply with state drinking water requirements. Division of Water Resources Regulation

0400-45-01-.05 outlines the procedures that an applicant must follow for obtaining approval to construct a water system. Regulation 0400-45-01-.05(3) refers to minimum design standards for the construction of groundwater and surface water sources, treatment facilities, storage facilities, and distribution facilities (sources, treatment, storage and piping) to comply with the water quality standards and treatment technique standards specified in Regulations. Further, Division Rule 0400-45-01-.17(37) of the Drinking Water Regulations outlines the required information that must be submitted with the engineering documentation for approval to construct a new system. The regulations were amended to also include a “Business Plan” and “Capacity Development Plan.” The definition of each of these plans can be found in Rule 0400-45-01-.04.

Section 68-221-704(2)(E) of the Tennessee Safe Drinking Water Act grants the Tennessee Board of Water Quality, Oil and Gas the authority to adopt rules to ensure that all new community water systems and non-transient, non-community water systems commencing operation after October 1, 1999 demonstrate technical, managerial, and financial capacity to comply with the requirements of the Safe Drinking Water Act.

In addition, the URMB must approve the startup of new utility districts under the Utility District Law, T.C.A. 7-82-202(a). TDEC closely coordinates with both the WWFB and URMB with a designee from the Commissioner on each Board.

Control Points

The Tennessee Department of Environment and Conservation (TDEC) has two control points in ensuring that new community and new non-transient, non-community water systems demonstrate the technical, managerial and financial capacity to comply with the Safe Drinking Water Act (SDWA).

- 1.) The first control point is the submission of engineering documents for approval to construct a new water system. TDEC’s engineering staff reviews the engineering documents for compliance with the procedures outlined in the regulation and the design standards. The water source must also be tested and approved. A staff accountant with the Division’s State Revolving Fund (SRF) Loan program assists engineers, as needed, in reviewing the financial capacity of a proposed system. The proposal must demonstrate that the system will have the technical, managerial and financial capacity to meet the requirements of the SDWA. If the information contained in the engineering report is satisfactory to the Department, it is approved and the system can proceed with development plans and specifications. Before final approval is granted to begin construction of a new water system, it must develop and submit a Capacity Development Plan to document to the State that the system is a “viable water system.” If at any time during this process the State determines the system is not a “viable water system,” approval to proceed can be withheld and the project denied.

- 2.) The second control point is final construction approval. Rule 0400-45-01-.17(19) of the State Drinking Water Regulations requires that once construction has been completed, arrangements must be made for an inspection and approval before operations can begin. All new public water systems are required to submit an engineering report summarizing the need for a new system, a summary of alternative solutions, and recommendations regarding sources of water, proposed treatment processes, project sites, distribution system, financing (rates, debt, etc.) and management. State regulations require water systems to obtain written approval from the Tennessee Department of Environment and Conservation to begin operation after construction is completed.

New System Compliance

No new community or non-community water systems have been established in 2014. In 2013, two new community systems were established: Springville Utility District in Henry County was established which purchases water from the Paris Board of Public Utilities. Also, Wayne County Board of Public Utilities (WCBPU) #4 was established which purchases its water from the City of Collinwood. WCBPU has three other purchase only systems purchasing water from Waynesboro, Clifton and Florence, Alabama. Further, Berry's One Stop (Wayne County), a transient non-community system was established in 2013. There was one transient non-community system established: Two other transient non-community systems were activated in 2013 and then de-activated before the end of the year. There were no non-transient non-community systems established in 2013. In 2012, Greasie's Trailer Park in Monroe County was the only new community system established. There were no non-transient non-community systems established in 2012 and ten transient non-community systems established.

In 2010 and 2011 five water systems were created including: Clinch K-12 School in Hawkins County (non-transient non-community system) and the Wayne County Board of Public Utilities (WCBPU) which has four separate distribution systems with individual PWSID numbers. Clinch School is a county school with a non-transient, non-community water system that is a replacement for an older school approximately ½ mile away. Wayne County Board of Public Utilities was established by the County and has created four separate distribution systems. WCBPU is financing the water lines with grants and loans to supply unserved areas in the county but the two cities will do the billing, operations and maintenance for the distribution systems. WCBPU applied for SRF loans which, were reviewed by the program. WCBPU was able to provide financial assurances that they would be able to pay back the loan.

Implementation of the Strategy – Existing Systems Strategy

As discussed earlier, Tennessee has many programs and tools available to help existing public water systems acquire technical, managerial and financial capacity. These include

training offered by FTC, third party operator and board member management training offered by the TAUD, the UT Municipal Technical Advisory Service, and others. Additionally, the Division conducts on-site inspections and provides frequent on-site technical assistance. Further, assessments are performed by financial review boards, including the Comptroller of the Treasury's Utility Management Review Board, Water and Wastewater Financing Board and Division of Municipal Audit. A financial self-assessment tool is also offered by the Division of Water Resources. Finally, enforcement of state rules provides definitive guidance relative to capacity needs.

More specifically, programs and tools used to help water systems acquire capacity are offered in various formats and venues. These include:

- ❑ Rule workshop updates provided to operators and system management by Fleming Training Center, Division of Water Resources staff and TAUD
- ❑ TAUD's training via EPA's Checkup Program for Small Systems (CUPSS) for small systems to develop asset management plans
- ❑ Operator Training at the Division's Fleming Training Center (FTC)
- ❑ Rulemaking Hearings open to the public and staff of PWSs conducted by Division of Water Resources staff
- ❑ Continuing Education Sessions for certified operators provided at American Water Works Association Conferences
- ❑ On-site and off-site technical assistance given to system operators and water system staff by Division of Water Resources Environmental Field Office (EFO) staff and Fleming Training Center
- ❑ On-site and off-site technical assistance given to system operators and water system staff by TAUD's "circuit riders"
- ❑ Financial Reviews of Municipal and Utility Districts by the Division of Municipal Audit in the State Comptroller's Office and subsequent action by either the Water Wastewater Finance Board or the Utilities Management Review Board.
- ❑ Elected Officials Training by MTAS (Municipal Technical Advisory Service)
- ❑ Commissioner and Board Member Training by TAUD
- ❑ Division of Water Resources' Financial Self-Assessment Manual
- ❑ Small Water System Operator Guide
- ❑ The Division of Water Resources' Sanitary Survey Manual for Community Water Systems (CWSs) and Non-transient Non-community Water Systems (NTNCWSs), Revised June 2013 (<http://www.state.tn.us/environment/DWR/pdf/SSManual.pdf>)
- ❑ Published Safe Drinking Water Rules
- ❑ Standard Operating Procedures (SOP) Requirements and Guidance
- ❑ TDEC Website Resources (Forms, Manuals, Videos, Lists and Links)
- ❑ Certified Laboratory Lists (available from the Division of Water Resources and the State's Website) & Lab Certification
- ❑ Certified Operator Lists (available from the Division of Water Resources and the Fleming Training Center)
- ❑ Sanitary Surveys providing comprehensive assessments of all public water systems

- ❑ State Revolving Loan Funds and staff technical assistance to eligible systems
- ❑ Emergency Operations Plan (EOP) Guidance (a/k/a Vulnerability and Security Plans) for all community water systems (Drought management plans are being required for the most at risk systems)
- ❑ Enforcement Targeting Tool (ETT)
- ❑ Enforcement Actions and Proceedings against all public water systems in non-compliance (Notices of Violation, Notices of Non-compliance, Show Cause Meetings, Compliance Review Meetings, Letter of Agreements, Commissioner's Orders, Directors Orders, Civil Penalty Assessments, and Contingent Civil Penalty Assessments)

Standard Operating Procedures (SOPs) – The Division of Water Resources requires public water systems to develop and adopt SOPs for operations, maintenance, and troubleshooting for at risk systems. Systems with a history of non-compliance are required to develop and adopt SOPs and systems whose certified operator(s) cannot be on-site while the system is producing water must have SOPs in-place for use by those individuals designated to operate the water system. Drinking Water rules require all public water systems meeting the definition of a public water system under the State's Water and Wastewater Operator Certification Act to be operated by a certified operator in direct control. The Division of Water Resources has been strongly encouraging systems with surface water treatment plants serving greater than 10,000 persons to have appropriate level certified operators in attendance whenever the plant is in operation.

The Fleming Training Center (FTC) offers fundamental and advanced training in water treatment, water distribution systems, laboratory operation, security, wastewater treatment, and wastewater collection systems. Additionally, FTC offer seminars designed to assist operators in obtaining their required continuing education. The Operator Certification Board plays a major role in the certification of qualified operators under the State's Water and Wastewater Operatory Certification Act. The Division of Water Resources supplies the Department of Environment and Conservation Commissioner's designee for the Board. Previously, the Commissioner of Department Environment and Conservation provided the Director of the Division of Water Resources the authority to revoke operator certification for just cause. However, in July 2013, the legislature modified the Water and Wastewater Operator Certification Act to provide the Commissioner the opportunity to recommend an operator's revocation of certification to the Board while the Board determines revocation.

Additional information regarding the Fleming Training Center and the Operator Certification Program in Tennessee is available on Tennessee Department of Environment and Conservation's website (<http://tn.gov/environment/fleming/>). Other operator resources available on the State's website include training clips, revised manuals and forms, links to resources, annual violations lists, certified lab lists, construction design criteria, and the current sanitary survey manual. These resources may be found at the following location: (http://www.state.tn.us/environment/DWR/drinking_water_program.shtml#videos).

State requirements for systems to have certified operators to comply with increasingly complex regulations has potentially led to fewer public water systems being created. This is due in part to creating a climate which encourages systems to consolidate or merge. Enhanced regulatory drinking water standards have also led to the development of partnerships between public water systems, sometimes involving the State, to understand the impact of a particular rule and the means to achieve compliance. Partnerships have emerged with respect to developing effective cross-connection control programs, mutual aid, and compliance with the disinfection/disinfection by-products rule. Tennessee statutes, regulations, and policies do not require capital improvements planning or regionalization studies, but many systems share certified operators. Several regional and statewide “management” groups have emerged in Tennessee, which offer their services to water systems that by themselves are not capable of retaining certified operators, nor is it feasible for them to interconnect.

Finally, the state's Emergency Operations Plan (EOP) requirement includes a source water assessment and source water protection plan element. This requirement allows systems to proactively examine and consider their source water. Public water systems in Tennessee are diligently working to protect vital drinking water sources from potential sources of contamination.

Identifying Systems in Need of Capacity

The Division of Water Resources also gives high priority to DWSRF applicants who must meet technical, managerial and financial capacity requirements in order to obtain funding. As described in this document, Tennessee continues to identify systems in need of capacity by monitoring water system compliance with rules. Systems with an elevated ETT score and that are lacking in capacity face a strategy of programs, actions and enforcement designed to develop system capacity and attain compliance. Tennessee continues to use construction approvals, continuing education for operators, DWSRF funding, municipal financial audit reports, reviews by the WWFB and UMRB, rule workshops, operator and board member training, sanitary survey assessments, compliance data (ETT list) and enforcement activities to reach systems lacking capacity.

Statewide Capacity Needs, Concerns and Trends

Improving the security of public drinking water systems is an area of heightened focus. A particular challenge for the Division is assisting small community water systems with limited personnel in identifying and addressing security issues. Although smaller systems are not at the same level of risk for a sinister event, they are at risk for disruption by disgruntled employees and local vandals. Improved security against potential terrorism and the more likely event of sabotage must be addressed if normal operations are to be maintained. Improving the security and resiliency of water systems better ensures the consistent and uniform provisions of services across the state.

Another immediate challenge is a forthcoming rule for implementation is the Revised Total Coliform Rule. Systems have been operating under the Total Coliform Rule for decades and the revised rule will require considerable adjustment and training. It will be a challenge to the Division to have rules in place and the systems educated and ready to comply by April 2016.

To address the challenge of the new rules, the Division of Water Resources staff will continue to provide on-site visits and technical assistance to systems that appear to be struggling to have in the past struggled to implement these rules. In addition, the Division makes available web training clips, revised manuals and forms, links to resources, annual violations lists, certified laboratory lists, construction design criteria and sanitary survey manuals.

Review of Capacity Development Strategy

The Division of Water Resources feels the current process outlined in this report is an effective method in targeting systems for assistance and meeting Capacity Development goals.

Modifications to Existing Strategy

Tennessee continues to follow its capacity development plan as it was originally developed by initially assisting systems to develop capacity and potentially escalating to enforcement action where appropriate. Thus, no significant changes to the strategy are anticipated at this time.

Challenges

The nationwide issue of aging infrastructure is a serious issue in Tennessee. The aging infrastructure replacement needs run into the billions of dollars and far outweigh the available funding. Not replacing critical aging infrastructure creates a domino effect which affects such things as operations, water quality, maintaining compliance and water loss.

The “population” of certified operators is aging as well. Based on data obtained from the Fleming Training Center in 2012, 59% of certified operators in Tennessee are between the ages of 40 to 60 years. The oldest operator was 87, the youngest was 22. The percentages are (total based on 3563 that there are valid ages for):

Age	%	Number of Operators
20s	5%	183
30s	20%	718
40s	28%	993
50s	31%	1120

60s	12%	432
70s	3%	103
80s	0.4%	15
Total		3563

Keeping the veteran operators up-to-date and breaking the “that’s the way we have always done it” cycle is critical as is properly training the new recruits and making the occupation inviting to a new generation.

Conclusion

Despite the challenges facing the water systems and Tennessee’s Drinking Water Program, the success of the State’s Capacity Development Strategy is encouraging. In fact, the statewide drought of record of 2007 and the 2010 thousand year flood event have encouraged many water systems to work together and increase interconnections, examine regional approaches to water supply issues and collaborate more on compliance issues and new rules. At the heart of these activities is State oversight and assistance. Undoubtedly, such efforts represent increased opportunities for enhancing the capacity of systems to comply with the Safe Drinking Water Act and to better meet future drinking water needs.

Appendices:

- 1 – ETT Systems List and Enforcement Status 2013 and through July 2014
- 1A – 2013 Annual Compliance Report for Safe Drinking Water Act – *Separate Document*
- 2 – Systems with Significant Noncompliance in 1997 – 2007
- 3 – Capacity Development Plan Guidance Document
- 4 – Capacity Development Business Plan, Financial Self Assessment Manual
- 5 – Utilities Management Review Board – Utilities under Jurisdiction; August 2013
- 6 – Water Wastewater Finance Board – Municipalities under Jurisdiction; July 2013
- 7 – Tennessee Public Water Systems with more Current History of Violations; July 1, 2007 – June 30, 2009
- 8 – DWRRF Loans in Tennessee
- 9 – DWRRF FY2014 Priority Ranking List

Glossary:

Community water systems (CWSs) are public water systems which serve at least fifteen (15) service connections used by year-round residents or regularly serve at least twenty-five (25) round-round residents.

Environmental Protection Fund (EPF) Act authorizes the department to assess fees (facility maintenance fees) for services provided.

Non-community water systems (NCWSs) are public water systems that are not community water systems.

Non-transient, non-community water systems (NTNCWs) are non-community water systems that regularly serve at least twenty-five (25) of the same persons over six (6) months per year.

Transient, non-community water systems (TNCWSs) are non-community water systems that regularly serve at least twenty-five (25) individuals daily at least sixty (60) days out of the year. A TNCWS is a public water supply system that generally serves a transient population such as hotels, motels, restaurants, camps, service stations, churches, commercial establishments and rest stops.

Appendix 1
Enforcement Targeting Tool
2013/2014
Scores 11 or more

ETT 2013

Fall Creek Falls Utility District

PWSID# TN0000552

ETT Score: 15

Score is based on DBP MCL violations (7/1/2012, 10/01/2012 and 1/1/2013). Additional HAA5 MCL in 2nd qtr 2013. SOX for THMs.

BCXX Water System (Bledsoe County Correctional Complex) – *provides water to Fall Creek Falls Utility District*

PWSID#0000553

ETT Score: 21

Score is based on HAA5 MCL violations (4th qtr 2012 and 1st qtr 2013) and SWTR TT in 1st qtr 2013.

Smyrna Water System

PWSID# TN0000639

ETT Score: 15

Score is based on THM MCLs (4th qtr 2012 and 1st qtr 2013). Additional THM and HAA5 MCLs in 2nd qtr 2013.

E. I. DuPont, New Johnsonville

PWSID# 0003779

ETT Score: 11

Score is based on Surface Water Treatment Rule treatment technique violations in July and September 2012

Mount Pleasant Water System #1

PWSID# 0000488

ETT Score: 13

Score is based on Surface Water Treatment Rule treatment technique violation and individual filter monitoring.

Accurate Energy Systems

PWSID# TN0004910

ETT Score: 11

Score is based on multiple Total Coliform Rule violations and Ground Water Rule violations.

ETT 2014 (through July 31, 2014)

Halls Grocery Store

PWSID TN0004986

ETT Score 11

TCR and GW monitoring violations

Woodbury Water System

PWSID TN0000756

ETT Score 14

ST1_DBP, ST2_DBP, TCR and LT1_ESWTR monitoring violations; CCR violation;
SWTR treatment technique violation

Carthage Water System

PWSID TN0000095

ETT Score 12

LT1_ESWTR treatment technique violation, ST2_DBP monitoring violation, TCR MCL
violation

Sparta Water System

PWSID TN0000652

ETT Score 12

LT1_ESWTR treatment technique violation, LT1_ESWTR other

New Bethel Baptist Church

PWSID TN0004695

ETT Score 12

TCR MCL violations

Hugh E. Johns Restaurants, Inc.

PWSID 0004440

ETT Score 11

TCR MCL violation, TCR monitoring violations

Bluff City Water Department

PWSID 0000061

ETT Score 20

ST1_DBP and ST2_DBP monitoring violations, TCR monitoring violations, LT1_ESWTR
treatment technique violation, CCR violation

Carderview Utility District

PWSID 0000085

ETT Score 20

LT1_ESWTR treatment technique violation, ST1_DBP and ST2_DBP monitoring violations, TCR monitoring violations, SWTR monitoring violation

Jacobs Creek Job Corps Center

TN0000078

ETT Score 13

LT1_ESWTR treatment technique violations, ST1_DBP monitoring violations, TCR monitoring violation, CCR violation

Bristol – Bluff City Utility District

PWSID TN0000079

ETT Score 11

LT1_ESWTR and LT2_ESWTR monitoring violations, ST1_DBP monitoring violation, LT2_ESWTR treatment technique violation, public notice violation, CCR violation, TCR monitoring violation

Sneedville Utility District

PWSID TN0000640

ETT Score 11

LT2_ESWTR monitoring violations, TCR monitoring violation

Hiwassee College Water System

PWSID TN0000426

ETT Score 12

SWTR, ST1_DBP, LT1_ESWTR, TCR monitoring violations; SWTR and LT1_ESWTR treatment technique violations

Eagle Bay Marina

PWSID TN0004936

ETT Score 16

TCR and GW monitoring violations, TCR MCL violations

Camp Marymount

PWSID TN0003701

ETT Score 11

ST1_DBP, LT1_ESWTR, LT2_ESWTR, SWTR and TCR monitoring violations

Appendix 1A
Annual Compliance Report
2013
Safe Drinking Water Act

Attached as separate report

Appendix 2
Systems with Significant Noncompliance
Compliance Status (1997- June 30, 2007)

PWSID	SYSTEM NAME	COMMENTS
0000023	ASHLAND CITY WATER DEPT	HAA5 & TTHM violations. (Cumberland River Source) RTC Aug 05
0000044	BELL BUCKLE WS	TTHM and HAA5 Jul 02-Jun03 RTC Jul 03. DWR-03017 issued Nov 03
0000046	BELVIDERE RURAL UD	CO 94-0378 issued Sep 94, RTC Dec 94
0000061	BLUFF CITY WATER DEPT	Construct filter for Underwood Spring source, RTC 18 Feb 96 Disinfection Mon Violation Apr-Jun 06 Bact Mon Violation Apr 06
0000062	CHINQUAPIN GROVE UD	CO 96-0080 issued May 96, RTC 9 Jul 1997, Deactivated Jun 05
0000078	JACOBS CREEK JOB CORPS - USFS	Technical Assistance ca Aug 96
0000083	LOON BAY PROP. OWNERS ASSOC	System gave PN for Nitrate Mon violation (Dec 97), RTC 16 Dec 96
0000085	CARDERVIEW UD	SWTR Jun-sep 99, RTC Oct 99Pb and Cu Jul 98-Jun 99, RTC Oct 99
0000094*	FIRST UD OF CARTER CO	(6) IESWTR Tx Tech & M/R Nov-Nov 06
0000099*	CELINA WATER SYSTEM	(6) IESWTR M/R 06-Nov 06
0000101	CENTER GROVE-WINCHESTER SPGS	CO 94-0373 issued Nov 94, RTC Dec 95
0000103	CENTERVILLE WATER SYSTEM	SWTR Tx Tech, Nov 03 – July 05, NONC 2/9/06
0000104	CHAPEL HILL WS	CO 96-0105 issued Jul 96, RTC 17 Jun 98 IESWTR Record Keeping Violation Nov 05 SWTR Treatment Technique Violation Dec 05
0000115	CLARKSBURG UD	DWR-0038 issued Nov 00, RTC Oct 00
0000119*	CLIFTON WATER DEPT	(14) IESWTR M/R May 05-Feb 07; order Apr 07
0000127	COLLINWOOD WATER DEPT	CO 96-02010 issued Sep 96 and DO DWR-0032 Jan 01, RTC Jun 001 SWTR Treatment Technique Violation Apr 06
0000138	CHEROKEE HILLS UTILITY DIST	SWTR, Tx Tech, Oct 96 – May 98, Order 4/17/97
0000149*	CROSS ANCHOR UD	(6) D/DBP MCL and M/R Jan 04-Dec 06; LOA Mar 07
0000180	OAK SHADOWS MHP	CO 96-0333 issued Nov 96 and deactivated Jan 97
0000183	DECATUR WATER DEPT	CO 96-0181 issued Sep 96, RTC 31 Aug 97
0000187	DECHERD WATER DEPT	CO 91-3216 issued Oct 91, RTC 1 Feb 95
0000221	ELIZABETHTON WATER DEPT	Technical Assistance ca Feb 96
0000223	NORTH ELIZABETHTON WATER CO-OP	TCR Mon, Aug 97 – April 2005, Order 8/3/99
0000230	ERIN WTP	CO 96-0119 issued Jun 96, inactivated source

0000231	ERWIN UTILITIES	CO 96-0453 issued Mar 97, RTC 20 Dec 96 BACT MCL Feb 06
0000232	ESTILL SPRINGS WATER DEPT	Failure to Filter Jul 1996 through May 00, RTC June 00
0000246*	FRANKLIN WATER DEPT	(7) IESWTR M/R Aug 03-Dec 05; TCR M/R Jul 97-Jun 05; Order Jun 09
0000274	NORTH GREENE UD	TTHM MCL violations (Lick Creek Source) RTC May 05
0000291	HARTSVILLE WATER DEPT	(6) D/DBP MCL Jul 04-Sep 05; NONC Jan 07
0000294	HENDERSONVILLE UD	(14) IESWTR Mon & Tx Tech Jan 022-Nov 06; Order Apr 04
0000317	HUNTLAND WS	CO 96-0058 issued Apr 96, RTC 9 Jul 97
0000324*	JAMESTOWN WATER DEPT	(11) D/DBP MCL Jul 02-Sep 06; Order Oct 08
0000389	NORTHEAST LAWRENCE UD	HAA5 & TTHM MCL violations (Lawrenceburg Source) RTC Aug 05
0000391	NEW PROSPECT UD	HAA5 & TTHM MCL violations, (Lawrenceburg Source) RTC Aug 05
0000392	LAWRENCEBURG WATER SYSTEM	IESWTR Mon, Dec 03 – July 05, Order 7/09
0000396	LENOIR CITY UTILITY BOARD	IESWTR Mon, Jan 02-Jan 03,
0000402*	LEXINGTON WS	(6) D/DBP M/R Oct 02-Jun 05; NONC Aug 08
0000405	LIVINGSTON WATER DEPT	HAA5 MCL Oct 02 through Jun 03, RTC Jul 03
0000410	PINEY UTILITY DIST	CO 95-0122 issued Jul 95, RTC 20 Apr 96, deactivated Nov 99
0000426	HIWASSEE COLLEGE WS	(26) SWTR/IESWTR Apr 98-Nov 06; (6) TCR May 06-Nov 06; Order Jul 06
0000455	MIDDLETON WATER DEPT	DWR-0037 issued Nov 00. RTC Jan 01
0000472	MOORESBURG UD	Construct new filter plant (in-service Jan 97)
0000479	MOUNTAIN CITY WATER DEPT.	CO 96-0116 issued Aug 96, RTC 31 May 99
0000485	COLD SPRINGS UD	CO 96-0182 issued Aug 96, RTC 1 Feb 98
0000517	BEDFORD COUNTY UD	HAA5 Violations, (Duck River Source) RTC Sep 05
0000520	BRUSHY MTN PRISON	IESWTR monitoring violations, RTC Jul 06
0000525	OCOEE UTILITY DIST	CO 96-0195 issued Sep 96, RTC 16 Sep 98
0000559	PORTLAND WATER SYSTEM	IESWTR Records and Exceedances Feb through Sep 02, RTC Oct 02
0000572	RED BOILING SPRINGS WS	CO 93-0587 issued Dec 93, DWR-0005 issued Feb 00, RTC 1 Nov 96
0000607	SAMBURG UTILITY DIST	7 TCR Mon, Dec 96 – July 04, Order 8/01
0000616	SEQUATCHIE WATER WORKS	Deactivated Aug 96
0000640	SNEEDVILLE UD	CO 96-0319 issued Nov 96, GUDI inactivated Bact Mon Violations Dec 05 and Jan 06
0000652*	SPARTA WS	(7) IESWTR Mon&TxTech Nov 06-Feb 07; Order Apr 08
0000656	SPRING CITY WATER SYSTEM	CO 94-0374 issued Nov 94, GUDI inactivated
0000678	THE FARM WATER SYSTEM	Lead & Copper, Jan 98 – Jun 00,
0000706	TRACY CITY WATER SYSTEM	Addressed in CO 84-0222 issued Aug 84, sources abandoned 1 Nov 96

0000724	VANLEER WATER DEPT	Chem SNC, RTC Jul 99
0000738	WESTMORELAND WS	HAA5 and TTHM MCL violations (Gallatin Source) RTC Aug 05
0000743	WEST WILSON UD	IESWTR monitoring and exceedances, Jan through Aug 02, RTC Sep 02
0000745	WHITE HOUSE UD	Equip repaired, RTC 1 Mar 99. No SWTR violations, RTC Oct 00
0000749	WHITWELL WATER DEPT	SWTR and IESWTR violations (RTC Jan 06)
0000754	WINCHESTER WS	THM MCL Oct 02-Dec 02 RTC Jan 03; Apr 03-Sep 03 RTC Dec 03
0000768	ANDERSON COUNTY UB	TOC Mon Jan-Mar 02 and HAA5 Mon Jan-Mar 02, RTC Apr 02
0000790	WILSON CO WATER & WASTEWATER	HAA5 MCL violations (Lebanon Source) RTC Apr 05
0000848	CUMBERLAND MTN RETREAT	DWR-9931 issued Dec 99, RTC Mar 99. Nitrate viol FY00, RTC May 01
0000888	MIDWAY TRAILER COURT	Mon and Pn for PB and CU – Nov 96, RTC 11 May 96, Deactivated Jan 06
0000899	HICKORY STAR MARINA	CO 96-0072 issued May 96, system to achieve compliance 1 Sep 01
0000916	LEATHERWOOD WATER DIST, INC	CO 97-0107 issued Aug 97, RTC 19 Sep 96
0000921	NATCHEZ TRACE YOUTH ACADEMY (formerly Seven Hawks Wilderness Program)	CO 96-0151 issued Jul 96, RTC 28 Feb 95 Bact Mon Violations Nov and Dec 05
0000923	HARBERT HILLS ACADEMY N.H.	10 TCR Mon, Dec 97 – May 2005,
0000952	HERITAGE ACADEMY	6 Rad MCL, July 00 – Mar 03, RTC 8/03
0000954*	COLONIAL HARBOR WS	(9) TCR Feb 00-Sep 05, Pb 7 Cu Jul 04-Dec 06; NONC Mar 06
0000958	BLUEBIRD HILLS MOBILE HOME (formerly Wildwood MHP)	DWR-9702 issued Jul 97 and DWR-9906 issued Apr 99
0000961	ACORN VILLAGE MHP (formerly Gabbard's MHP)	Court Injunction (Case 96-0471) and deactivated Mar 01
0000962	DOALNARA RESTORATION SOC USA (formerly Elijah Gospel Mission)	DWR-9901 issued 27 Jan 99, RTC 8 Feb 99 Bact Mon Violation Apr 06
0002024	CLINCH SCHOOL	8 TCR Mon, Apr 99 – Oct 07,
0002109	KELLOGG'S CONVENIENCE FOODS	6 TCR Mon MCL, Oct 99 – Dec 04
0002645	KYLES FORD SCHOOL Deactivated May 01	DWR-9802 in Feb 98 and DWR-0006 in Feb 00, RTC 9 Jan 95,
0002997	SPINKS CLAY CO.	6 TCR Mon, Jan 08 – Oct 01
0003779	E.I. DUPONT, NEW JOHNSONVILLE	11 SWTR/IESWTR Mon, Aug 97 – Feb 05
0004300*	E.I. DUPONT, OLD HICKORY	(7) D/DBP Jan 04-Sep 06
0004441	H & H WHOLESALE, PRO- LINE	CO 96-0148 issued Nov 96, deactivated Aug 96
0004725	LITTLE TYKE'S DAYCARE	Deactivated Oct 00
0004726	COLLINWOOD HEAD START	Deactivated Aug 95

0004737	ANN AND ANDY'S DAY CARE CENTER	8 TCR Mon, Apr 98 – Sep 03
0004800	LITTLE PEOPLE UNIVERSITY	CO 97-0116 issued Jul 97, deactivated Aug 97
0004910	ACCURATE ENERGETIC SYSTEMS	6 TCR Mon, Jan 01 – July 03
0005063	NORTHWEST HEADSTART OF HUMBOLT	3 Lead & Copper, July 02 – Dec 03
0008033	COLD SPRINGS II WS	DWR-0003 issued Jan 01, deactivated Jun 00
0008130	LEWIS TRAILER PARK	7 TCR Mon, Oct 99 – Feb 05
0008233*	WARREN COUNTY UD #2	(6) D/DBP MCL Jan 07-Jun 07; Order May 09
0009940	BEECHVIEW CORPORATION	System Deactivated Mar 06

* Denotes system added for this reporting period.

Total: 92 Public Water Systems

CO – Commissioner's Order
DWR-### – Director's Order
DWR – Division of Water Resources
GUDI – Ground Water Under Direct Influence of Surface Water
Mon – Monitoring
PN – Public Notification
PWS – Public Water System
RTC – Return to Compliance
SS – Sanitary Survey
TA – Technical Assistance

Appendix 3

Capacity Development Plan Guidance Document

Pursuant to Tennessee Code Annotated Sections 68-221-706 and 68-221-707 the Department shall exercise general supervision over the construction, operation and maintenance of public water systems throughout the State of Tennessee. As one aspect of such general supervision, all new community public water systems shall submit a **Capacity Development Plan** for review and approval by the Department. Components of the Capacity Development Plan include an **Operation and Maintenance Plan**, an **Emergency Operations Plan**, a **Bacteriological Site Sampling Plan**, a **Business Plan**, etc. Together, these plans when followed assure continuous satisfactory operation of a water system. The submittal should be submitted to the Department's Division of Water Resources (DWR) and shall include, at minimum, the following information:

- Name, address and telephone number of the owner(s) or ultimate responsible party of the facility or public water system. Leaseholders or business owners may be responsible for managing and operating the facility on a day-to-day basis and included in list to obtain correspondence, but they are not the ultimate responsible party. The ultimate responsible party is (are) the **property owners**.
- Agreement to retain the services of a properly certified operator.
- Proof of retention of certified operator (copy of signed Operator Agreement).
- Name, address and telephone number of the **certified operator** in direct charge of the public water system. The certified operator also may be held responsible for violations incurred as a result of his/her oversight.
- An **Operation and Maintenance Plan** must be developed. The plan shall include information on staffing and organizational structure, accountability; and the system's fiscal management and controls. The plan shall identify Environmental Field Office (EFO) contacts, certified labs and lab contacts, the location of all operational component plans and the names and phone numbers of those responsible for implementing those plans, data management systems used, routine activity and facility maintenance schedules, training programs, and safety procedures and guidelines in effect.

- Agreement and statement of understanding indicating that **Plans and Specifications** shall be prepared and submitted for approval for any change, alteration or construction regarding the public water system. These include changes in process that affect water quality, hydraulic conditions, or the function of a process. These must be submitted and approved by the DWR. Projects that are being funded with Drinking Water State Revolving Funds (DWRRF) are submitted to the State Revolving Fund Loan Program (formerly the Division of Community Assistance or DCA). Such approval shall be obtained prior to initiation of the proposed project. “As-Builts” shall be submitted on completion of a project. A long-range system plan, including capital improvements plan is not required by the DWR, but may be desirable to the system.
- A **Source Water Assessment and Protection Plan** and/or **Wellhead Protection Plan** must be developed and submitted to the DWR for approval.
- Prepare and submit for review and approval a **Monitoring Plan** to the Division of Water Resources based on rules, and guidelines provided by the Division. Such plan will identify all parameters to be monitored (including Benzo(a)pyrene and asbestos) and a schedule for conducting that monitoring. Such plan will include all bacteriological contaminants and chemical parameters required by and in accordance with Division rules. One component of the Monitoring Plan will be a **Bacteriological Site Sampling Plan** (Information and guidance material is available upon request). The plan should address the number and location of follow-up sampling, public notification, etc. The Monitoring Plan should include (or execute) a **consolidation agreement** with parent water systems (where applicable) for the monitoring of lead and copper tap water. The Monitoring Plan should also note any parameters waived and when a parameter waiver expires.
- Establish and submit an **Emergency Operations Plan** (and Drought Management Plan if appropriate) for review and approval by the Division. The system may enter into an agreement indicating the intent to cooperate with the parent water system in the event of an emergency that interrupts water service and conveying its willingness to supply alternative potable water during a state of emergency if needed. (information and guidance material available upon request). An Emergency Operations Plan will outline system options, responses, conservation plans and other provisions in case of flooding, power outage, major fire, contamination, major line break, source contamination, drought, chemical release, etc.
- Develop a **Customer Complaint File** regarding water related issues to be maintained on site. Customer complaints with CWSs which relate to financial and/or managerial issues should have a UMRB or **SRF** number assigned. The

file must contain customer name and address, date of complaint, nature of complaint, and action(s) taken to resolve the complaint. A Customer Relations plan is not required by the DWR, but may be desirable to the system.

- Agreement and statement of understanding indicating that **Monthly Operation Reports** (MORs) shall be submitted to the Division no later than ten (10) days following the end of the month being reported. The MOR shall accurately reveal the operation and performance of the water system during the reporting period.
- A **Cross Connection Control Program Plan** for the detection and elimination of cross connections must be submitted and approved by the Division of Water Resources (Information and guidance material is available upon request).
- A **Record Keeping Plan** shall be developed and maintained. Records kept shall include storage tank inspection and maintenance reports, Individual facility maintenance records, flushing records with beginning and ending chlorine residuals, chlorine residuals at new taps, facility security records (including vandalism, break-in, theft, and trespass), equipment maintenance and repair records (maintenance, calibrations, dates out-of-service, and repairs of pumps, meters, feeders and alarms), line breaks - maintenance and repair, distribution maps. Other records that must be kept include: bacteriological sample analyses, cross connection plans and inspection records, chemical analysis, sanitary surveys, actions to correct violations, turbidity records, daily worksheets and shift logs used to produce MORs, lead and copper related records, and public notices.
- A **Public Notifications and Public Education File** should be maintained. Efforts to inform customers of violations, Boil Water Advisories, and community education should be kept in a file. Further, Community Water Systems (CWSs) must prepare and submit a Consumer Confidence Report (CCR) annually.
- Agreement to remit annual **Facility Maintenance Fees** to the Division plus any penalties and interest charges which have accrued due to late or non-payment of the annual facility maintenance fee. Public water systems must also submit a **Business Plan**. The plan shall identify source(s) of income or revenue sufficient to meet expenses over a three (3) year period. The business plan will identify costs related to retaining a certified operator, estimated annual infrastructure repair cost, depreciation, facility maintenance fees, estimated annual monitoring costs, estimated costs of providing public notices, estimated administrative costs, and any other operational, treatment, and related costs (e.g. chemicals and other supplies used to treat water, etc.). The business plan must include the re-payment of borrowed and amortized funds.

- Agreement to comply with any and all laws, rules and/or regulations which are necessary or applicable to the public water system.

Appendix 4

Capacity Development - Business Plan (Financial Self-Assessment Manual)

The purpose of a business plan for a water system is to show that the proposed or continued operation of a water system will be viable from a financial standpoint. Business Plans can be/are a means of determining/assuring the viability of water systems from a financial standpoint. Operating a water system is like operating any business, and for any business to be successful, it needs to have a "business plan." The attached worksheet (or Financial Self-Assessment Manual) provides a framework to summarize and evaluate your business. Three columns are provided in order to show anticipated income and expenses over the next three years. "Year One" should cover the system's current business year. Columns are provided for listing "Income" and "Expenses" for the second and third years, if different, otherwise the figures shown in "Year One" will be assumed as intended. The "Total" or bottom line of the plan should combine "Total of all Expenses" and the "Total of all Income." If "Expenses" exceeds "Income" then rates, fees and/or other income must be increased or expenses must decrease in order for the system to be viable. If the cost of operating the water system is unacceptable, the water system may want to consider what alternatives are available. If drinking water, which meets Safe Drinking Water Act requirements is available or can be made available from another public water system at a reasonable cost it may be possible to deactivate the water system. Other options may exist if the water system is extremely small and water use is minimal. Your Environmental Field Office (EFO) must be consulted in this event (1-800-523-4873).

In addition, operating a water system requires two additional plans: a facility and specifications plan (technical), **and** an operation and maintenance plan (technical and managerial capacity), in addition to a business (financial) plan. In summary, a viable water system is "a public water system which has the commitment and the financial, managerial and technical capacity to consistently comply with the Tennessee Safe Drinking Water Act and these regulations." A water system is determined to be "non-viable" if it cannot meet state requirements.

Definitions:

Sales of Water (Conn x Rate x Min Mo Water Use) – The amount of income derived from water revenues. Such revenue typically is based on the number of connections, the rate or cost of water, and the minimum amount an account is allowed to be charged.

Tap Fees, Reconnect Fees and Bad Check Fees – Fees derived from setting new taps; fees collected after service is discontinued and there is a reconnection; and fees related to checks returned due to insufficient funds, etc.

Interest Earned – Revenue derived from interest accrued from system bank accounts, etc.

Other – Monies earned from rental or sale of equipment, services provided to other agencies or businesses, etc.

Cost of Water – If purchased from a PWS (Public Water System), royalties due to water rights holders, etc.

O&M – Expenses related to Operations and Maintenance. These would include the cost of chemicals (chlorine, lime, etc.), power, fuel (gas, gasoline and diesel fuel), transportation and communication expenses (vehicles and vehicle maintenance, repair equipment, mobile phones, etc.), monitoring costs (sample collection and lab costs), materials and supplies, normal repairs to lines and filters, and salaries and benefits of employees.

Administrative Costs – Insurance, office supplies, postage, legal, accounting, telephone, salaries and benefits for managers, and clerical workers.

Facility Maintenance Fee – Fee payable to the Division of Water Resources (DWR), Tennessee Department of Environment and Conservation (TDEC) on or about October 1 of each year.

A/E & Professional Services, Fees (including Billing Services) – Architectural and Engineering Fees, Professional Service Fees, including the cost of contracted billing services, etc.

Contracts – Backflow Prevention Testing, Certified Operators (on contract), etc.

Taxes or Payments in Lieu of Taxes – Payments of local, state and/or the federal government.

Debt Repayment – Loan Debt Service

Capital Improvements – The cost of physical improvements made to the facility. Capital improvements specifically related to a water system include the addition of filtration equipment, pumps to improve flows, the extension of the piping system.

Other Expenses - Public Notification (PN), public relations costs, employee training, civil penalties, etc.

Operating Cash Reserves – Funds available to meet expenses from a cash flow standpoint. Invariably there will be times when expenses will exceed anticipated revenues, whose obligations must be met prior to receiving additional income.

Emergency Reserves – Funds which are available to replace, repair, or meet unexpected new additional requirements, etc. which are unexpected due to a variety of causes, including theft, fire, flood, vandalism, etc.

Business Plan Worksheet

Category	Specific Budget Items	Amount	Amount	Amount
		Year One	Year Two	Year Three
INCOME				
	Sales of Water (Conn X Rate X Min Mo Water Use)			
	Fees – Tap Fees			
	Fees – Reconnect Fees			
	Fees – Bad Check Fees			
	Interest Earned			
	Other (specify)			
Sub-Total	(Total Of All Income)			
EXPENSES				
	Cost of Water (if purchased from another PWS)			
	Operating and Maintenance Expenses			
	O&M – Chemicals			
	O&M – Electrical Power and other Fuel			
	O&M – Transp and Comm (Vehicle expense)			
	O&M – Monitoring			
	O&M – Materials, Supplies and Parts			
	O&M – Operator Salaries and Benefits			
	Administrative			
	Adm – Insurance			
	Adm – Ofc Supplies, Equipment and Postage			
	Adm – Legal and Accounting			
	Adm – Telephone			
	Adm – Salaries/Benefits - Managerial/Clerical			
	TDEC Facility Maintenance Fee			
	A/E & Prof Services/Fees (incl Billing Service)			
	Contracts (incl Backflow Prevention Testing, etc.)			
	Taxes or Payments in Lieu of Taxes			
	Debt Repayment (Bond/Loan Debt Service) Expense			
	Capital Improvements			
	Depreciation Expense			
	Other Expenses (PN, PR, Employee Training, etc.)			
	Operating Cash Reserves			
	Emergency Reserves			
Sub-Total	(Total Of All Expenses)			
TOTAL ¹	Net Income (or Loss)			

Signature: _____ Date: _____

¹ Note: Subtract "Total of All Expenses" from "Total of All Income." If "Expenses" exceeds "Income" then Rates and Fees must increase and/or Expenses must decrease. If no "Expenses" and "Income" are shown for the second and third years, figures are the same as shown in "Year One."

Appendix 5

<u>SYSTEMS UNDER THE UMRB JUNE 2014</u>			
<u>DISTRICT</u>	<u>COUNTY</u>	<u>LAST AUDIT</u>	<u>LAST BD APPEARANCE</u>
Bedford County UD	Bedford	June-13	February-13
Cagle-Freedonia UD	Sequatchie	December-13	June-14
Cherokee Hills UD WL	Polk	December-12	February-13
Clay Gas UD	Clay	August-13	February-10
Clearfork UD WL	Claiborne	December-12	June-14
East Sevier UD WL	Sevier	June-12	October-11
Haywood County UD	Haywood	June-13	August-13
Iron City UD	Lawrence	December-12	February-13
Lone Oak UD	Sequatchie	December-12	June-14
Minor Hill UD WL	Giles	December-11	February-13
Mooreburg UD WL	Hawkins	December-12	June-14
Natural Gas UD of Hawkins Co	Hawkins	March-13	February-13
North UD of Rhea	Rhea	September-13	June-14
Roan Mountain UD WL	Carter	March-13	December-13
Samburg UD	Obion	January-13	June-14
Spring Creek UD WL	Hardeman	June-13	June-14
Surgoinsville UD	Hawkins	April-13	June-14
Tansi Sewer UD	Cumberland	February-13	
Unicoi Water UD	Unicoi	September-13	June-14

WL: Under the Board for Water Loss considerations

Appendix 6

Systems under the WWFB July 2014		
<u>SYSTEM</u>	<u>COUNTY</u>	<u>LAST AUDIT</u>
Town of Alexandria	DeKalb	2013
Town of Atwood	Carroll	2013
City of Bradford	Gibson	2013
City of Bolivar	Hardeman	2013
Coffee County WTA	Coffee	2013
City of Collinwood	Wayne	2012
Town of Decatur	Meigs	2013
City of Dunlap WL	Sequatchie	2013
Town of Englewood	McMinn	2013
City of Erin	Houston	2013
City of Friendship	Crockett	2013
City of Friendsville WL	Blount	2012
Town of Gainesboro	Jackson	2013
City of Grand Junction	Fayette	2013
Town of Halls WL	Lauderdale	2013
Town of Henning	Lauderdale	2013
City of Hohenwald WL	Lewis	2013
Town of Hornsby	Hardeman	2013
Humphreys County	Humphreys	2013
Town of Huntland	Franklin	2013
Town of Huntsville	Scott	2013
City of Jellico WL	Campbell	2013
City of Kenton WL	Gibson/Obion	2013
Lauderdale County Water	Lauderdale	2013
City of Lenoir City WL	Loudon	2012
City of McMinnville WL	Warren	2013
City of Middleton	Hardeman	2013
City of Millington	Shelby	2013

WL		
City of Munford	Tipton	2013
Town of Obion	Obion	2012
Town of Oneida	Scott	2013
City of Puryear	Henry	2013
City of Ramer	McNairy	2013
City of Red Boiling Springs	Macon	2013
Town of Rutledge	Grainger	2013
Scott County Sewer System	Scott	2013
Town of Sharon	Weakley	2013
City of Springfield WL	Robertson	2013
Town of Stanton	Haywood	2013
City of Sunbright	Morgan	2013
Town of Tellico Plains WL	Monroe	2013
Town of Tennessee Ridge	Houston/Stewart	2013
Town of Vonore	Blount/Monroe	2013
City of Westmoreland WL	Sumner	2013
Town of Woodbury WL	Cannon	2013

WL: Under the Board for Water Loss considerations

Appendix 7

Tennessee PWSs with a More Recent History of Violations (July 1, 2006 – June 30, 2009)

0000010	ALLARDT WATER WORKS	HAA5 MCL from Apr 05 – Dec 08, Order 9/08, RTC Jan 09
0000013	NORTH OVERTON UTILITY DISTRICT	HAA5 and THM MCL from July 07 – Mar 08, RTC Apr 08, Order 7/08
0000041	BEAN STATION UTILITY DISTRICT	THM MCL from April 08 – Mar 09, Order 6/09, RTC Jun 09
0000074	HOLSTON UTILITY DISTRICT	MRDL M/R Jul-Sep 07, Apr-Dec 08; TCR MCL/MR Jul 07-Nov 08; Aug 09; THM/HAA M/R Apr 08-Dec 08; Order 01/09.
0000078	JACOBS CREEK JOB CORPS – USFS	IESWTR Tx Tech, Jun 07, July-Nov 08, RTC Dec 08
0000079	BRISTOL-BLUFF CITY UTILITY DIS	TCR Monitoring, Aug 06, Sep-Oct 07, Feb-Mar 09, RTC Apr 09
0000274	NORTH GREENE U D	HAA5 MCL, Jul 06 – Dec 08, Order 8/08, RTC Jan 09 TTHM MCL, Jul 06 – Jun 08, Order 8/08, RTC Jul 09
0000278	GRIFFITH CREEK UTILITY DIST	TTHM MCL and Mon, Jul 06 – Dec 08, Order 5/08
0000520	BRUSHY MTN PRISON	THM MCL, Oct 07 – Sep 08, Order 8/08, RTC Oct 08
0000552	FALL CREEK FALLS UTILITY DIST	HAA5 MCL, Jul 06 – Jun 09, Order 9/08
0000593	ROGERSVILLE WATER SYSTEM	HAA5 MCL, Jul 06 – Dec 08, Order 7/08, RTC Jan 09
0000596	LAKEVIEW UTILITY DISTRICT	HAA MCL Apr –Dec 08; Jan-Mar 10; THM M/R Jan 10-Mar 10; Order 02/09.
0000640	SNEEDVILLE UTILITY DISTRICT	HAA MCL Apr-Jun 08; HAA M/R Oct-Dec 07, Jul-Sep 08; THM MCL Apr-Jun 08; THM M/R Oct-Dec 07, Jul-Sep 08; RTC 10/08; Order 8/08.
0000649	SOUTH GILES UTILITY DISTRICT	HAA5 MCL, Jul 07 – Jun 08, Order 6/08, RTC Jul 08
0000651	SOUTH PITTSBURG WATER SYSTEM	HAA5 MCL and Mon, Oct 07, Dec 08, Order 8/08, RTC Jan 09
0000673	STRIGGERSVILLE UTIL DIST	HAA5 MCL, Jul 06 – Jun 08, RTC Jul 08, Order 9/08
0000699	H.B.& T.S. UTILITY DISTRICT	HAA5 MCL, Jul 06 – Mar 08, RTC Apr 08, Order 9/08

Notes:

Systems are included if during the period identified, they incurred: 6 or more monthly violations, or 4 or more quarterly violations.

TCR and operational violations may occur over several compliance periods. EPA considers a system as having RTC when a system successfully monitors TC the following period.

TTHM (Total Trihalomethanes) and HAA5 (Haloacetic acids (five))

Appendix 8
DWRRF Loans in Tennessee
(List of CWSs receiving a State Revolving Loan by Fiscal Year)

FY1997-1998

Jackson UD
Kingsport
McMinnville
McKenzie
Greenfield

FY1998-1999

Collinwood
Elizabethton
Troy
Greenfield
Eastview UD

FY1999-2000

Bradford
McMinnville
Moore County/Lynchburg
West Overton UD
Crossville
Loudon
Ocoee UD

FY2000-2001

Gladeville UD
Laguardo UD
Oakland
Mt. Pleasant
Watts Bar UD
Lenoir City
Loudon
Loudon

FY2001-2002

Clarksville
Clarksville
Crossville
Cumberland UD
DeKalb UD
Gladeville UD (Increase)
Lebanon
Loudon (Increase)
McMinnville (Increase)
Morristown

Cont (FY2001-2002)

Union Fork - Bakewell UD
Union Fork - Bakewell UD
West Warren – Viola UD
West Warren – Viola UD (Increase)

FY2002-2003

Chattanooga
Mountain City
Oak Ridge
Shelbyville
Sweetwater
Loudon (Increase)
Nashville
Cumberland UD
McMinnville
Ocoee UD
West Overton
Lafollette
Loudon (2 Increases on 2 loans)
Morristown

FY2003-2004

Lawrenceburg
Clarksburg
Lebanon
Ripley
Chattanooga
West Warren Viola UD
Benton County
Decatur County
Bolivar
Hendersonville UD
Sweetwater
Nashville
Hallsdale Powell UD
Livingston

FY2004-2005

Hendersonville UD
Lawrenceburg (Increase)
Rockwood
Ocoee UD (2) loans
Hallsdale Powell UD
McMinnville
Mt. Pleasant
Wartburg
Shelbyville

FY2005-2006

Lebanon
Hallsdale Powell UD (2)
Rogersville
Reelfoot
Jefferson City
Livingston
Maynardville
Maury County
Ocoee UD
West Cumberland UD

FY2006-2007

Watauga River Regional Water Authority

Newport
Maury County (2)
Bon-Aqua Lyles U.D. (2)
Sewanee U. D.
Lebanon
Reelfoot U.D.

FY 2007-2008

Livingston (loan increase)
Lebanon
Lafayette
Loudon (2 loans)
Ocoee UD

FY 2008-2009

Lebanon
Bon Aqua-Lyles U.D. (loan increase)
McMinnville

FY 2009-2010

Hallsdale Powell Utility District
City of Lafayette
City of McMinnville
City of Ripley
Ocoee Utility District
Smith Utility District
Bloomingdale Utility District
City of Jellico
Madison Suburban Utility District
City of Morristown
City of Franklin
City of Nashville
Watauga Regional River Water Authority
Crossville
City of Maynardville
Sewanee Utility District

FY 2010 – 2011

Old Gainesboro Road Utility District
City of Sharon
City of Alexandria
City of Bell Buckle
Cross Anchor Utility District
City of Elizabethton

FY 2011-2012

Cross Anchor Utility District
Mosheim
Erwin (loan increase)
Camden
Lebanon
Cumberland Utility District
Minor Hill Utility District
Elizabethton
Big Creek Utility District

FY 2012-2013

Cordell Hull Utility District
City of Ridgely
City of Harriman
Giles County/Fairview
DeKalb County Utility District
City of Cleveland

FY 2013 - 2014

Cordell Hull Utility District
Ridgely
25 Utility District
Halls
Jellico
Livingston
Poplar Grove UD
DeKalb UD
Athens

FY 2014 – 2015 (tentative)

Bloomington UD
Cleveland
Kingsport
Ridgely (Loan Increase)
Smyrna
Sweetwater
Troy

**Appendix 9
DWRRF 2014 Priority Ranking List**

Rank	Priority Points	Ability to Pay Index	Water System	County	Project	Total Project Amount
1	65	10	Englewood	McMinn	Water Treatment Plant improvements – replace raw water pumps and filter system, electrical upgrades, and other misc. improvements	\$600,000
2	65	40	Hohenwald	Lewis	Waterline extension (30,000 linear feet to serve 90 county customers)	\$260,000
3	65	40	West Stewart Utility District	Stewart	Water meter replacement and new storage tank	\$315,000
4	45	30	Troy	Obion	New water line, distribution system improvements	\$125,000
5	45	40	North Stewart Utility District	Stewart	Water line extension	\$2,650,000
6	45	40	Warren County Utility District	Warren	Water treatment plant improvements – raw water intake upgrade	\$2,750,000
7	45	50	Carthage	Smith	Water tank replacement – new 600,000 storage tank	\$1,000,000
8	45	50	Carthage	Smith	Water treatment plant improvements – new solids handling basin and three new pumps	\$592,000
9	45	50	Cookeville Boat Dock UD	Putnam	Water line replacement, water loss correction (replace 12 miles of existing line)	\$750,000
10	45	50	Paris	Henry	Water treatment plant improvements – sedimentation basin, aerators, filter building, backwash basin and clearwell	\$3,100,000